FIG.1

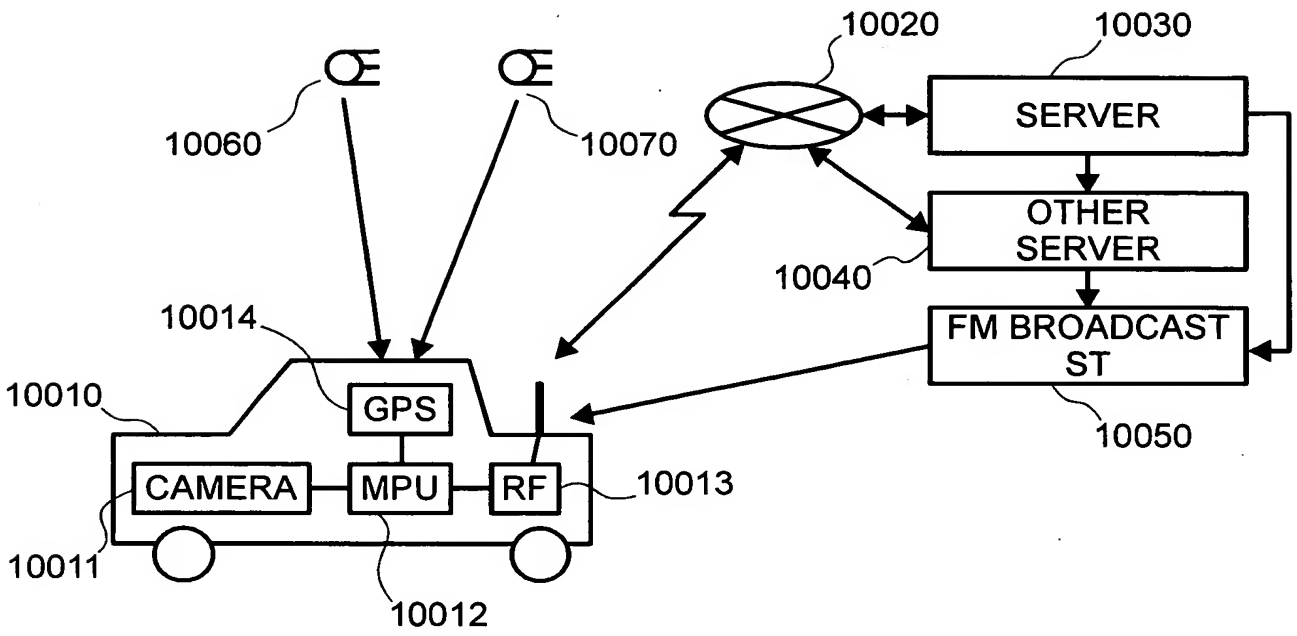

10020
10030
10060
10070
SERVER
OTHER SERVER
10040
10014
FM BROADCAST ST
10010
GPS
10050
CAMERA
MPU
RF
10013
10011
10012

FIG.2

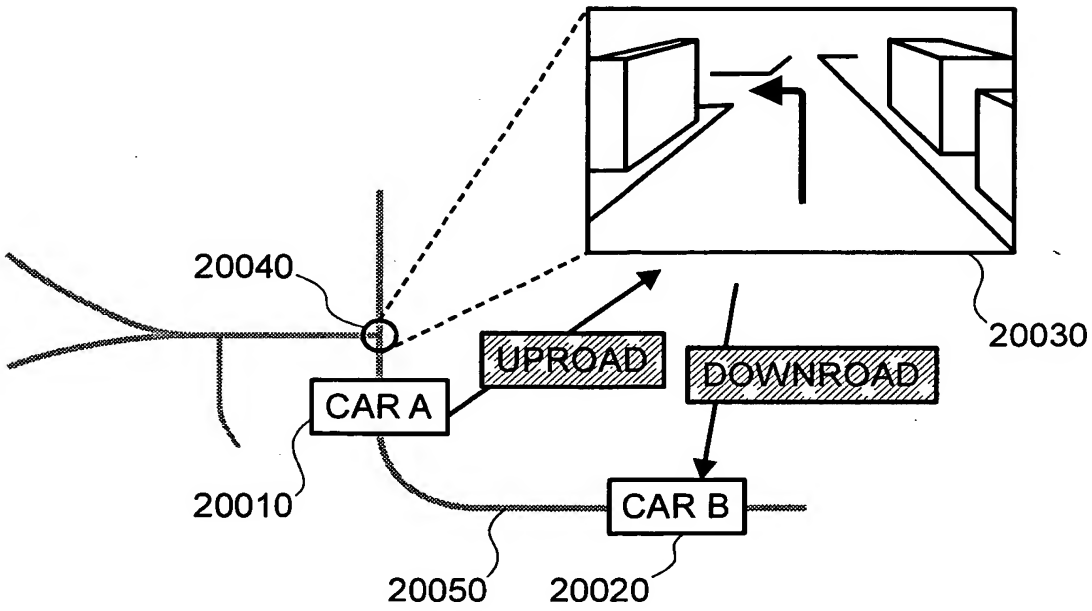

20040
20030
UPROAD
DOWNROAD
CAR A
20010
CAR B
20050
20020

FIG.3

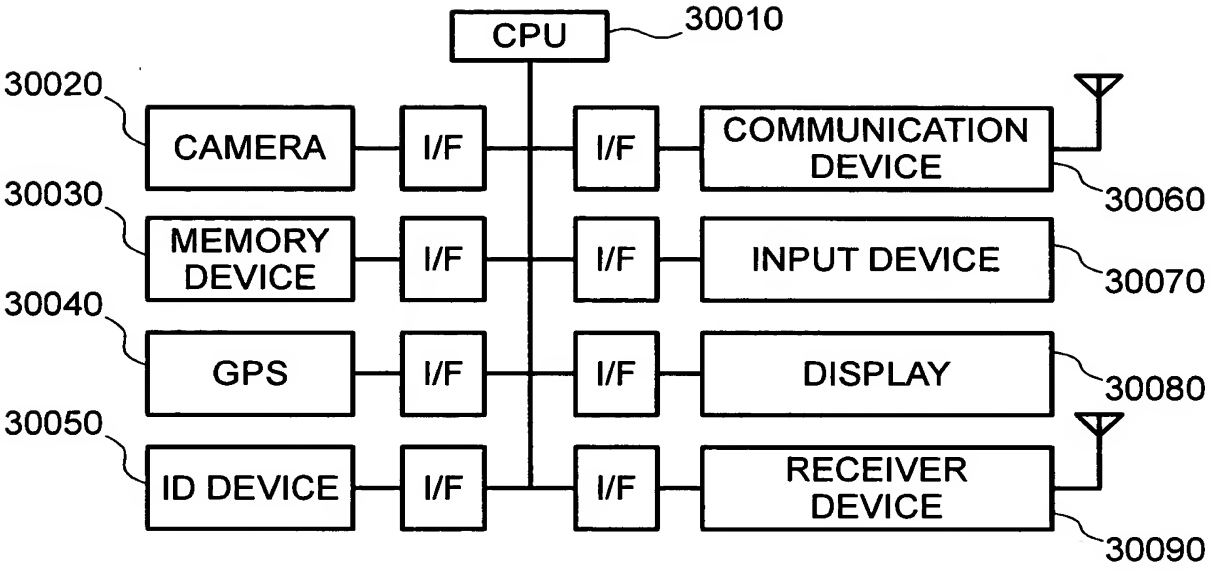

CPU
30010
30020
CAMERA
I/F
I/F
COMMUNICATION DEVICE
30060
30030
MEMORY DEVICE
I/F
I/F
INPUT DEVICE
30070
30040
GPS
I/F
I/F
DISPLAY
30080
30050
ID DEVICE
I/F
I/F
RECEIVER DEVICE
30090

FIG.4

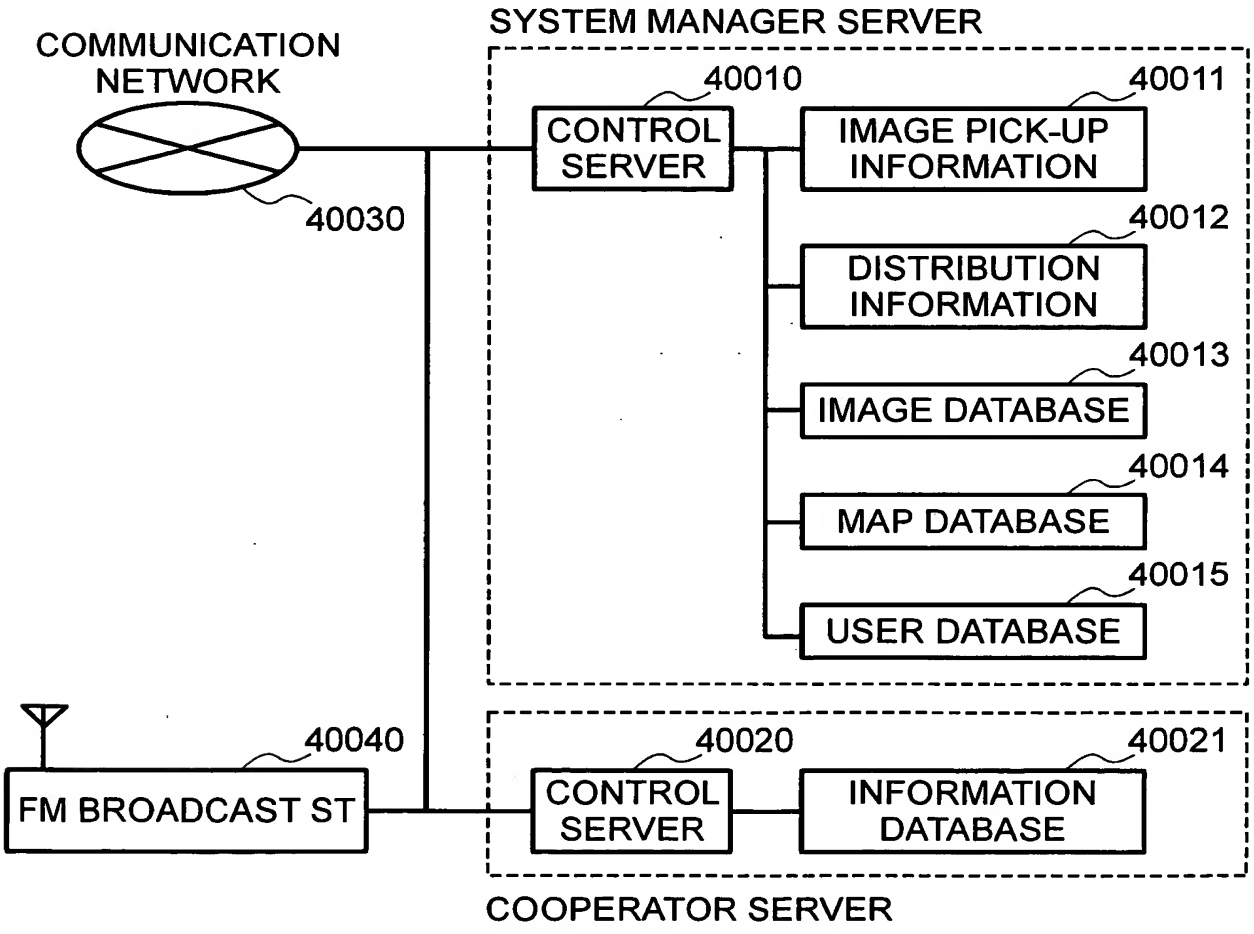
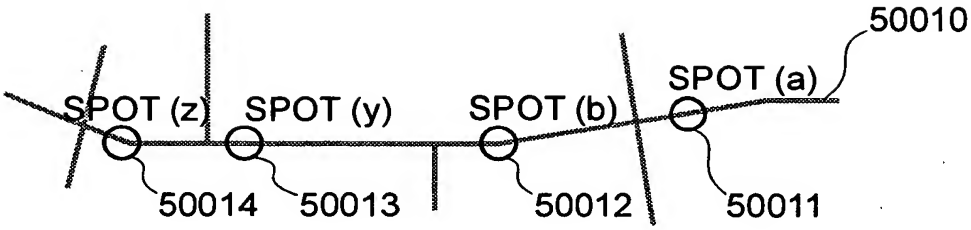

COMMUNICATION NETWORK
40030
SYSTEM MANAGER SERVER
40010
CONTROL SERVER
40011
IMAGE PICK-UP INFORMATION
40012
DISTRIBUTION INFORMATION
40013
IMAGE DATABASE
40014
MAP DATABASE
40015
USER DATABASE
40040
FM BROADCAST ST
40020
CONTROL SERVER
40021
INFORMATION DATABASE
COOPERATOR SERVER

FIG.5


50010
SPOT (a)
SPOT (z)
SPOT (y)
SPOT (b)
50014
50013
50012
50011

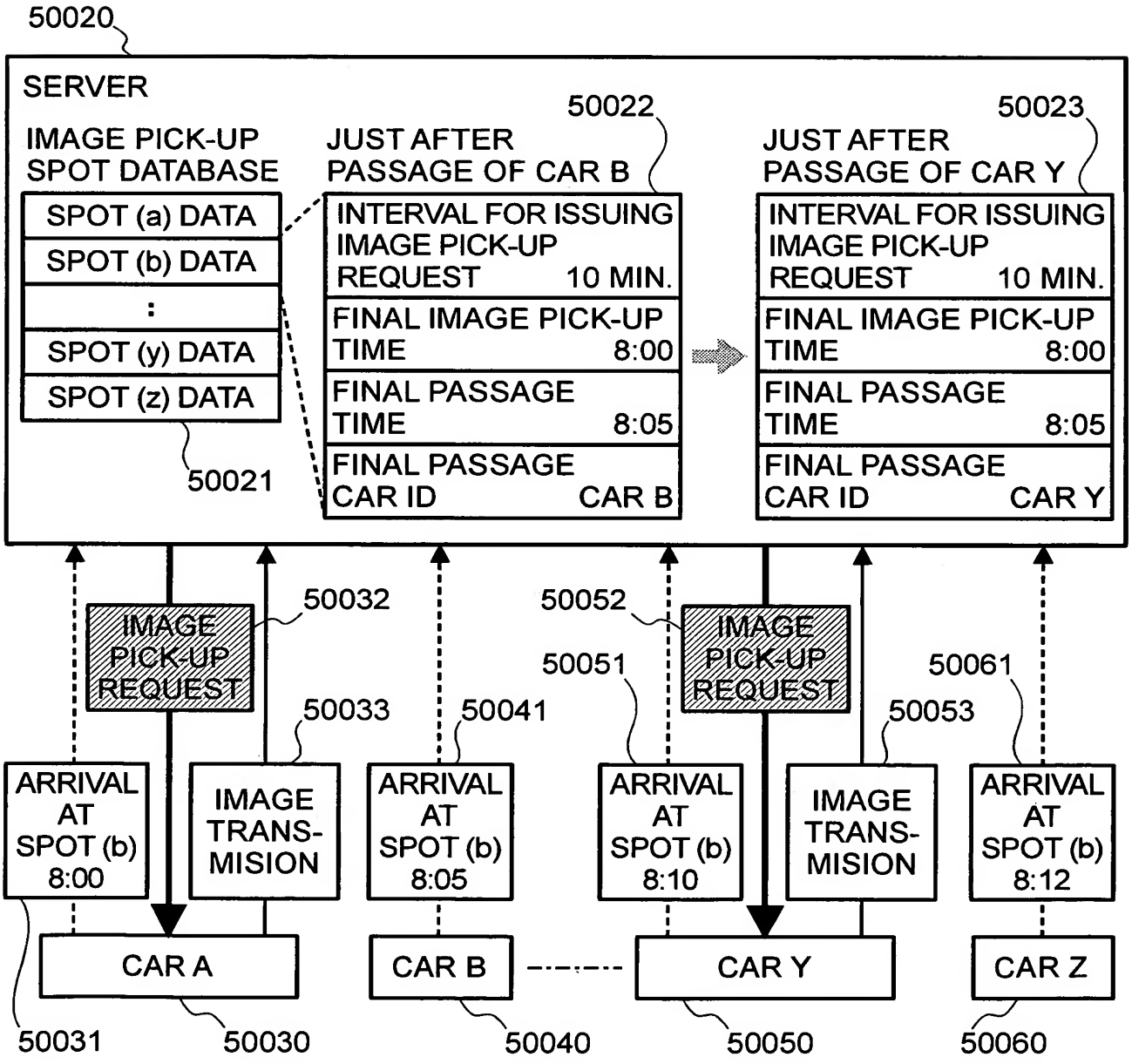

50020
SERVER
IMAGE PICK-UP SPOT DATABASE
SPOT (a) DATA
SPOT (b) DATA
:
SPOT (y) DATA
SPOT (z) DATA
50021
50022
JUST AFTER PASSAGE OF CAR B
INTERVAL FOR ISSUING IMAGE PICK-UP REQUEST 10 MIN.
FINAL IMAGE PICK-UP TIME 8:00
FINAL PASSAGE TIME 8:05
FINAL PASSAGE CAR ID CAR B
50023
JUST AFTER PASSAGE OF CAR Y
INTERVAL FOR ISSUING IMAGE PICK-UP REQUEST 10 MIN.
FINAL IMAGE PICK-UP TIME 8:00
FINAL PASSAGE TIME 8:05
FINAL PASSAGE CAR ID CAR Y
IMAGE PICK-UP REQUEST
50032
50033
50041
50051
50052
IMAGE PICK-UP REQUEST
50053
50061
ARRIVAL AT SPOT (b) 8:00
IMAGE TRANS-MISION
ARRIVAL AT SPOT (b) 8:05
ARRIVAL AT SPOT (b) 8:10
IMAGE TRANS-MISION
ARRIVAL AT SPOT (b) 8:12
CAR A
CAR B
CAR Y
CAR Z
50031
50030
50040
50050
50060

FIG.6

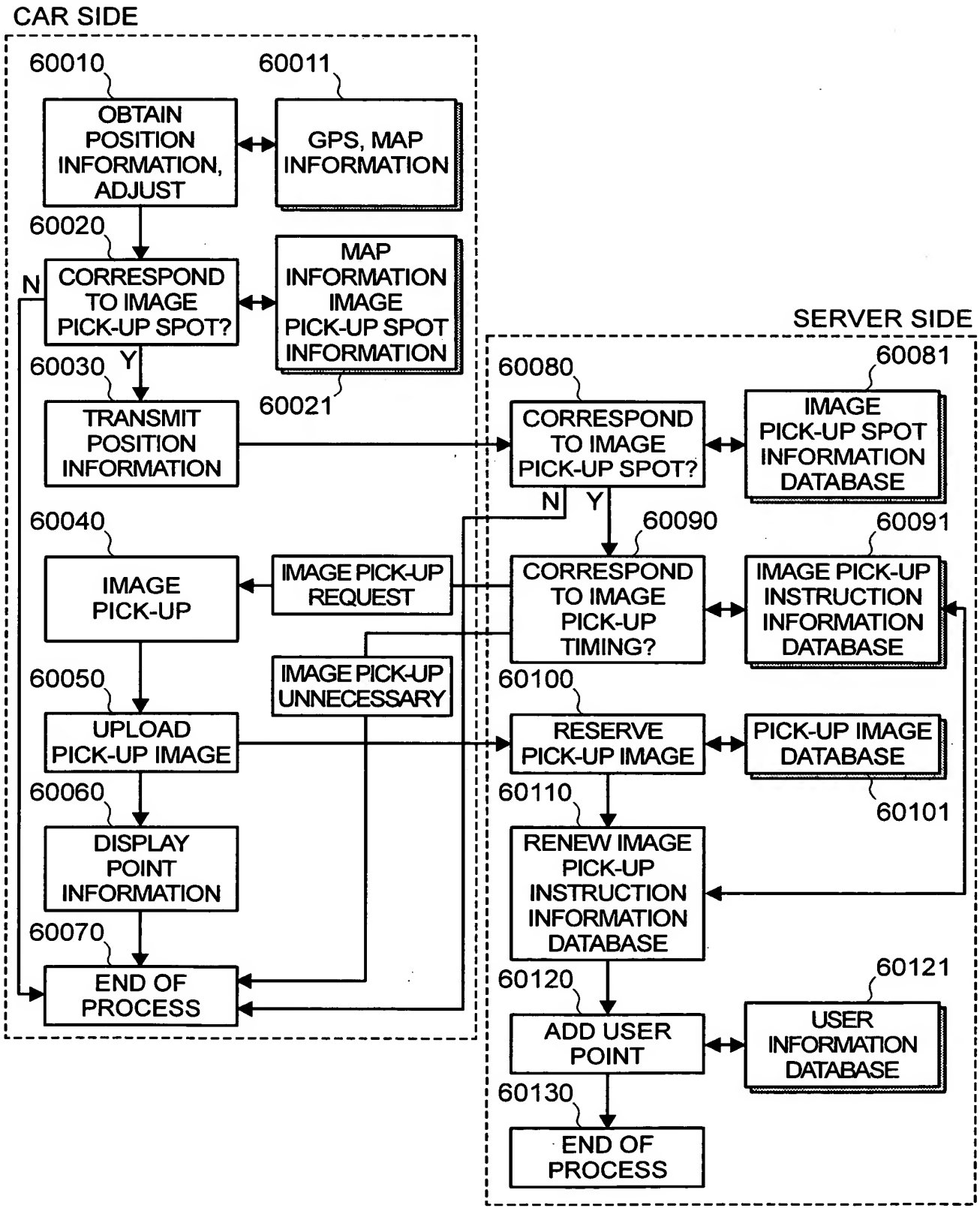

CAR SIDE
60010
OBTAIN POSITION INFORMATION, ADJUST
60011
GPS, MAP INFORMATION
60020
CORRESPOND TO IMAGE PICK-UP SPOT?
N
MAP INFORMATION IMAGE PICK-UP SPOT INFORMATION
60021
60030
Y
TRANSMIT POSITION INFORMATION
60040
IMAGE PICK-UP
IMAGE PICK-UP REQUEST
IMAGE PICK-UP UNNECESSARY
60050
UPLOAD PICK-UP IMAGE
60060
DISPLAY POINT INFORMATION
60070
END OF PROCESS
SERVER SIDE
60080
CORRESPOND TO IMAGE PICK-UP SPOT?
60081
IMAGE PICK-UP SPOT INFORMATION DATABASE
N
Y
60090
CORRESPOND TO IMAGE PICK-UP TIMING?
60091
IMAGE PICK-UP INSTRUCTION INFORMATION DATABASE
60100
RESERVE PICK-UP IMAGE
PICK-UP IMAGE DATABASE
60101
60110
RENEW IMAGE PICK-UP INSTRUCTION INFORMATION DATABASE
60120
ADD USER POINT
60121
USER INFORMATION DATABASE
60130
END OF PROCESS

FIG.7

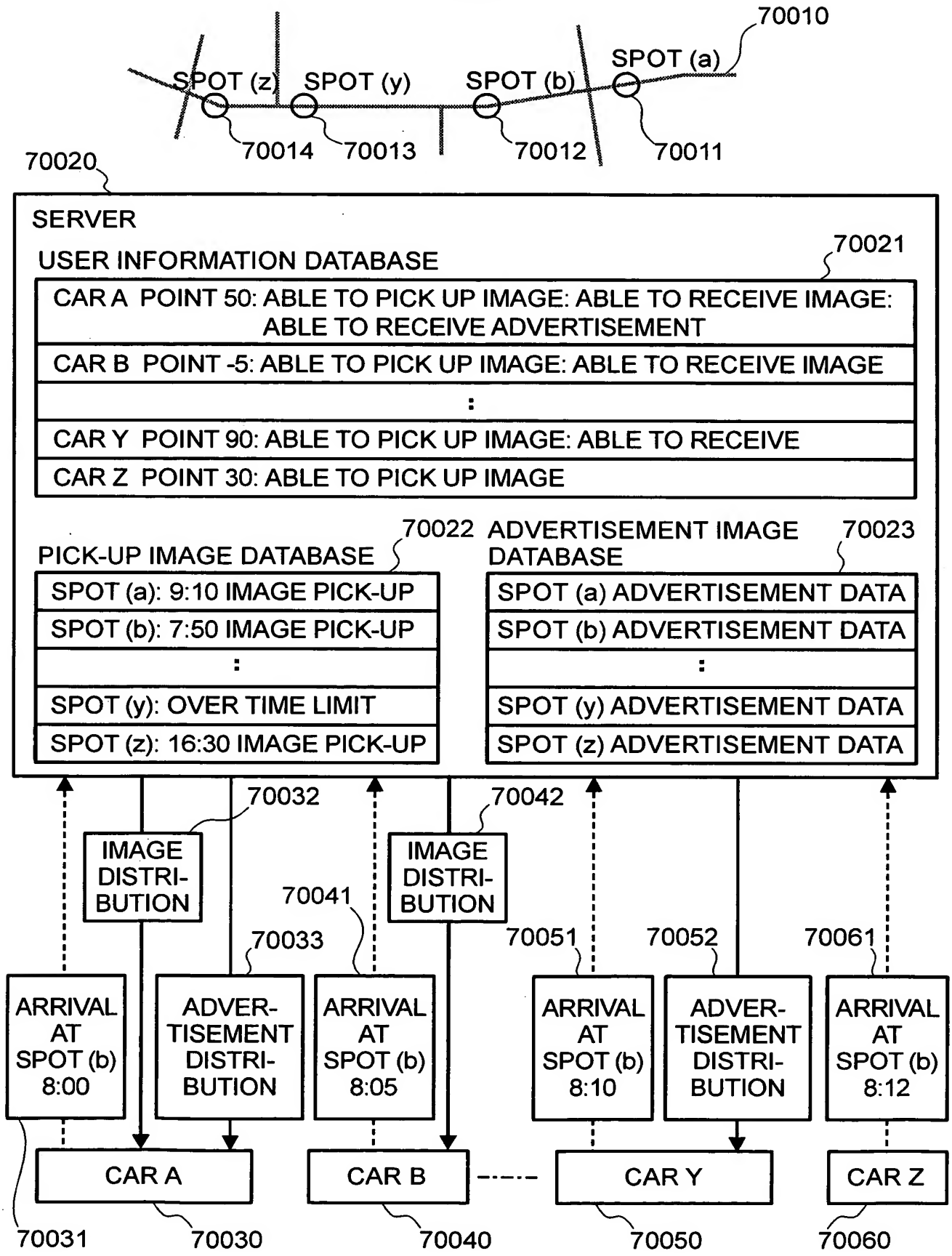

70010
SPOT (a)
SPOT (z)
SPOT (y)
SPOT (b)
70014
70013
70012
70011
70020
SERVER
USER INFORMATION DATABASE
70021
CAR A POINT 50: ABLE TO PICK UP IMAGE: ABLE TO RECEIVE IMAGE: ABLE TO RECEIVE ADVERTISEMENT
CAR B POINT -5: ABLE TO PICK UP IMAGE: ABLE TO RECEIVE IMAGE
:
CAR Y POINT 90: ABLE TO PICK UP IMAGE: ABLE TO RECEIVE
CAR Z POINT 30: ABLE TO PICK UP IMAGE
PICK-UP IMAGE DATABASE
70022
SPOT (a): 9:10 IMAGE PICK-UP
SPOT (b): 7:50 IMAGE PICK-UP
:
SPOT (y): OVER TIME LIMIT
SPOT (z): 16:30 IMAGE PICK-UP
ADVERTISEMENT IMAGE DATABASE
70023
SPOT (a) ADVERTISEMENT DATA
SPOT (b) ADVERTISEMENT DATA
:
SPOT (y) ADVERTISEMENT DATA
SPOT (z) ADVERTISEMENT DATA
70032
70042
IMAGE DISTRI-BUTION
IMAGE DISTRI-BUTION
70041
70033
70051
70052
70061
ARRIVAL AT SPOT (b) 8:00
ADVER-TISEMENT DISTRI-BUTION
ARRIVAL AT SPOT (b) 8:05
ARRIVAL AT SPOT (b) 8:10
ADVER-TISEMENT DISTRI-BUTION
ARRIVAL AT SPOT (b) 8:12
CAR A
CAR B
CAR Y
CAR Z
70031
70030
70040
70050
70060

FIG.8

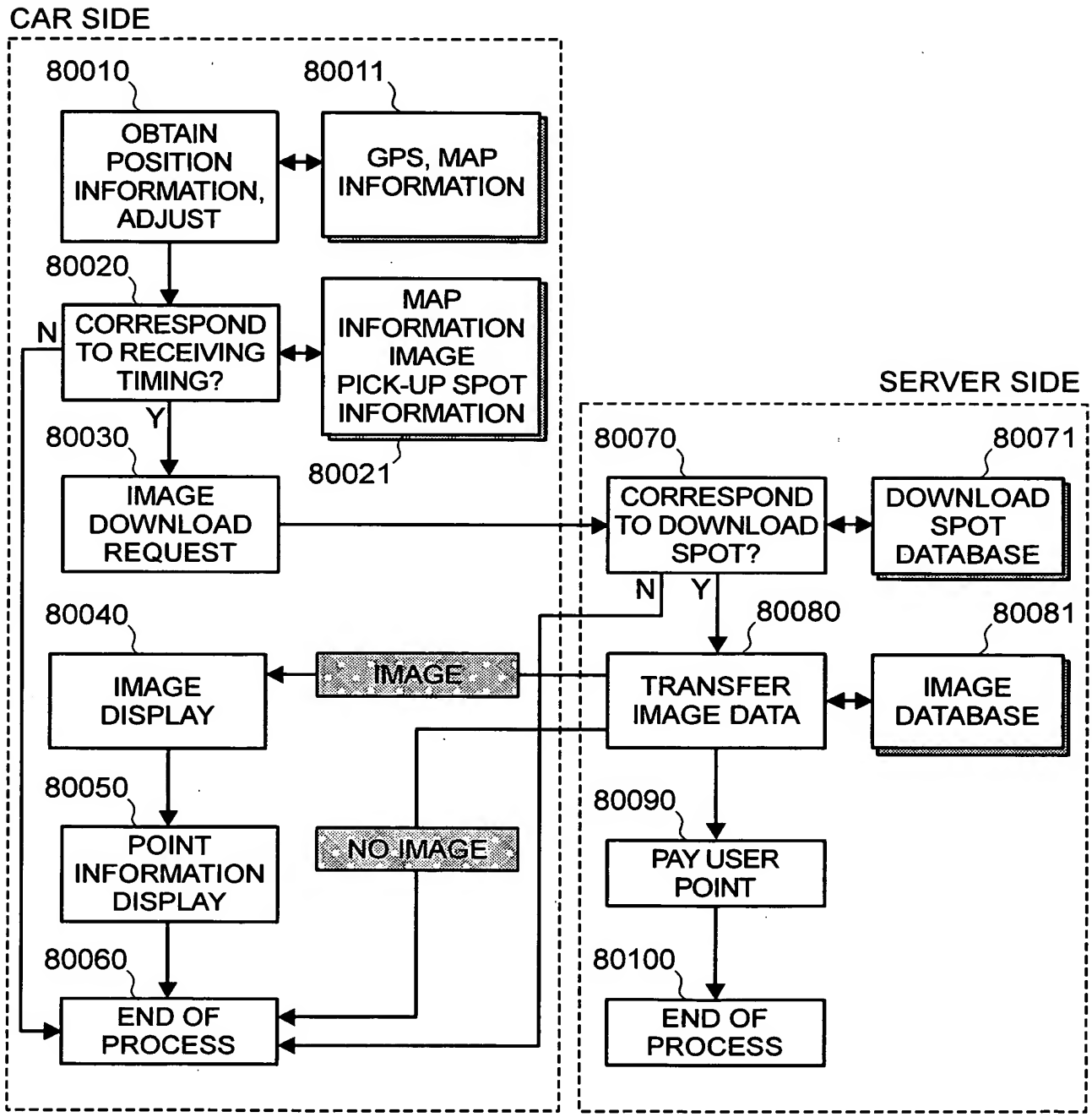
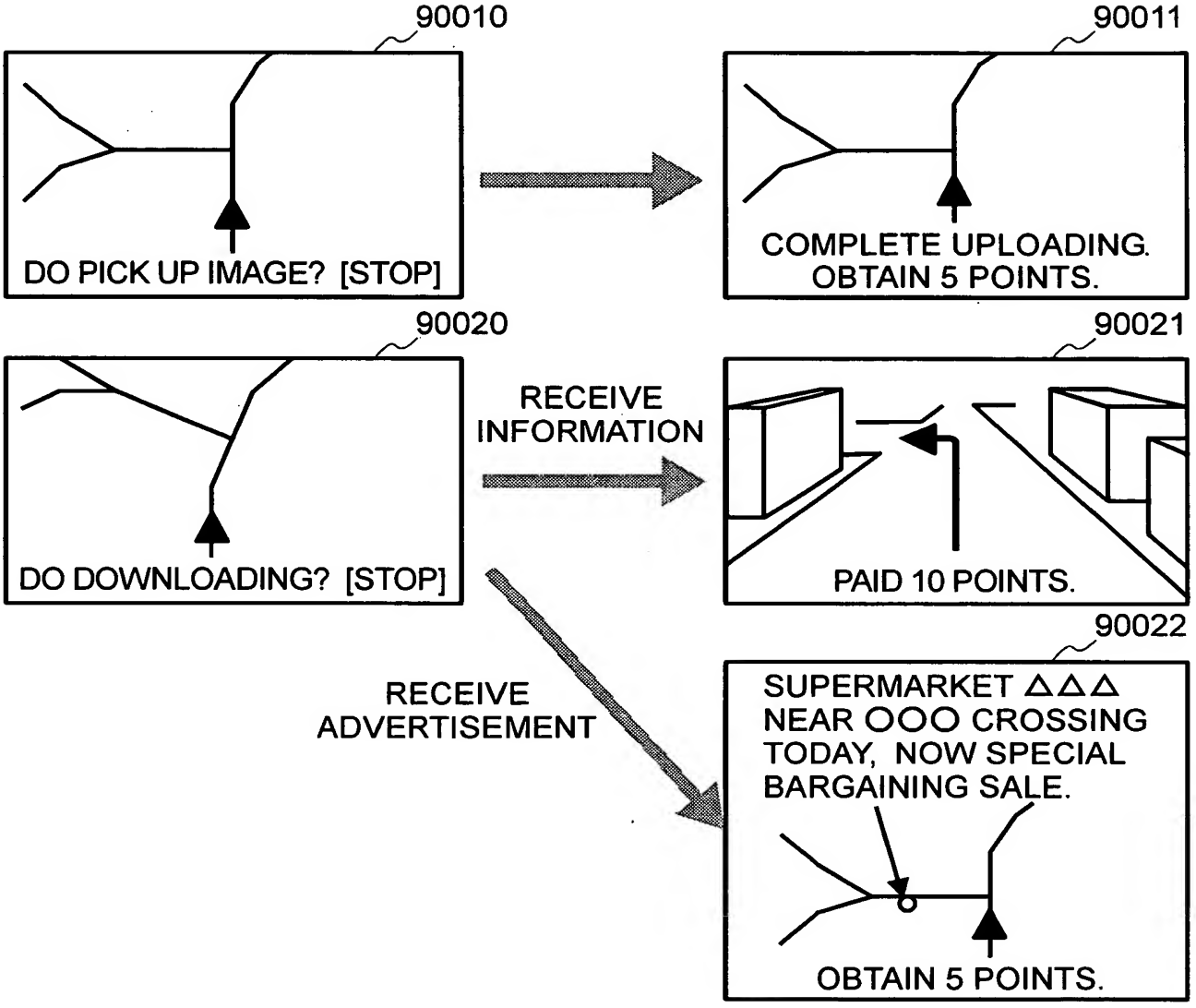

CAR SIDE
80010
OBTAIN POSITION INFORMATION, ADJUST
80011
GPS, MAP INFORMATION
80020
N
CORRESPOND TO RECEIVING TIMING?
MAP INFORMATION IMAGE PICK-UP SPOT INFORMATION
80021
Y
80030
IMAGE DOWNLOAD REQUEST
SERVER SIDE
80070
CORRESPOND TO DOWNLOAD SPOT?
80071
DOWNLOAD SPOT DATABASE
N
Y
80040
IMAGE DISPLAY
IMAGE
80080
TRANSFER IMAGE DATA
80081
IMAGE DATABASE
80050
POINT INFORMATION DISPLAY
NO IMAGE
80090
PAY USER POINT
80060
END OF PROCESS
80100
END OF PROCESS

FIG.9


90010
DO PICK UP IMAGE? [STOP]
90011
COMPLETE UPLOADING.
OBTAIN 5 POINTS.
90020
DO DOWNLOADING? [STOP]
RECEIVE INFORMATION
90021
PAID 10 POINTS.
RECEIVE ADVERTISEMENT
90022
SUPERMARKET △△△
NEAR ○○○ CROSSING
TODAY, NOW SPECIAL
BARGAINING SALE.
OBTAIN 5 POINTS.

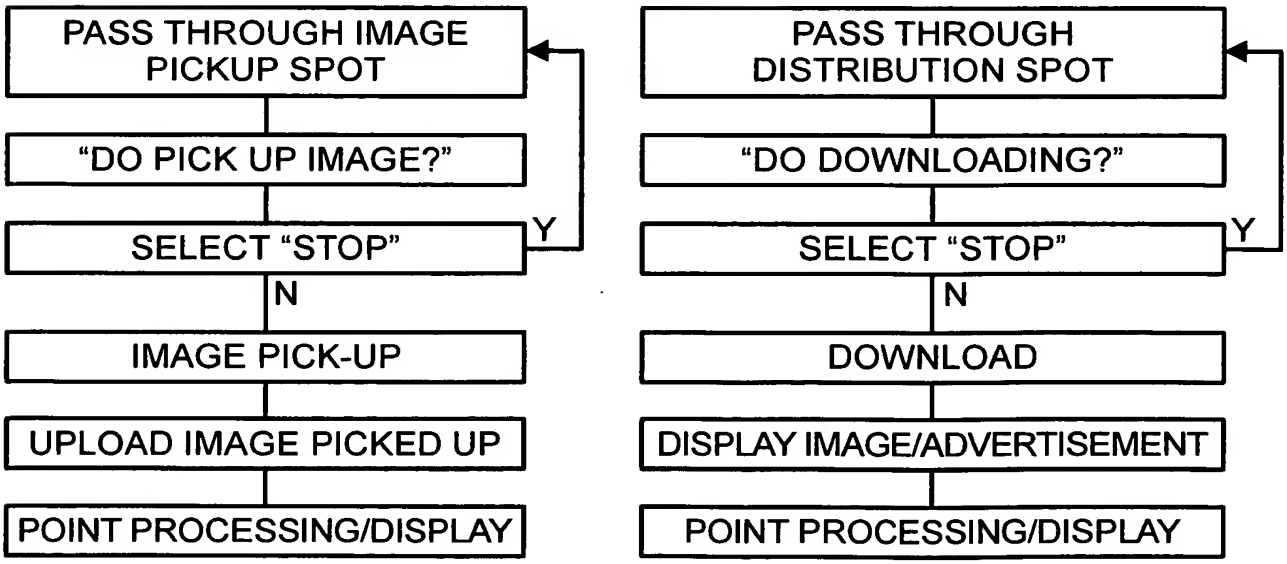
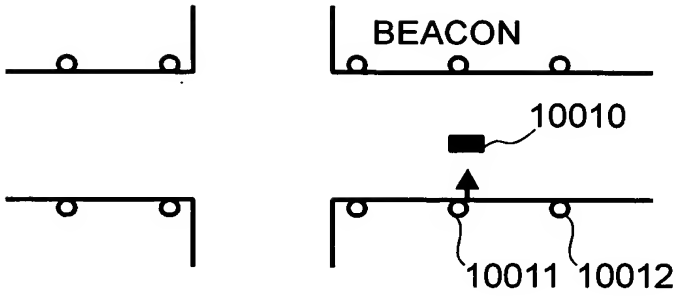

PASS THROUGH IMAGE PICKUP SPOT
"DO PICK UP IMAGE?"
SELECT "STOP"
Y
N
IMAGE PICK-UP
UPLOAD IMAGE PICKED UP
POINT PROCESSING/DISPLAY
PASS THROUGH DISTRIBUTION SPOT
"DO DOWNLOADING?"
SELECT "STOP"
Y
N
DOWNLOAD
DISPLAY IMAGE/ADVERTISEMENT
POINT PROCESSING/DISPLAY

FIG.10


BEACON
10010
10011
10012

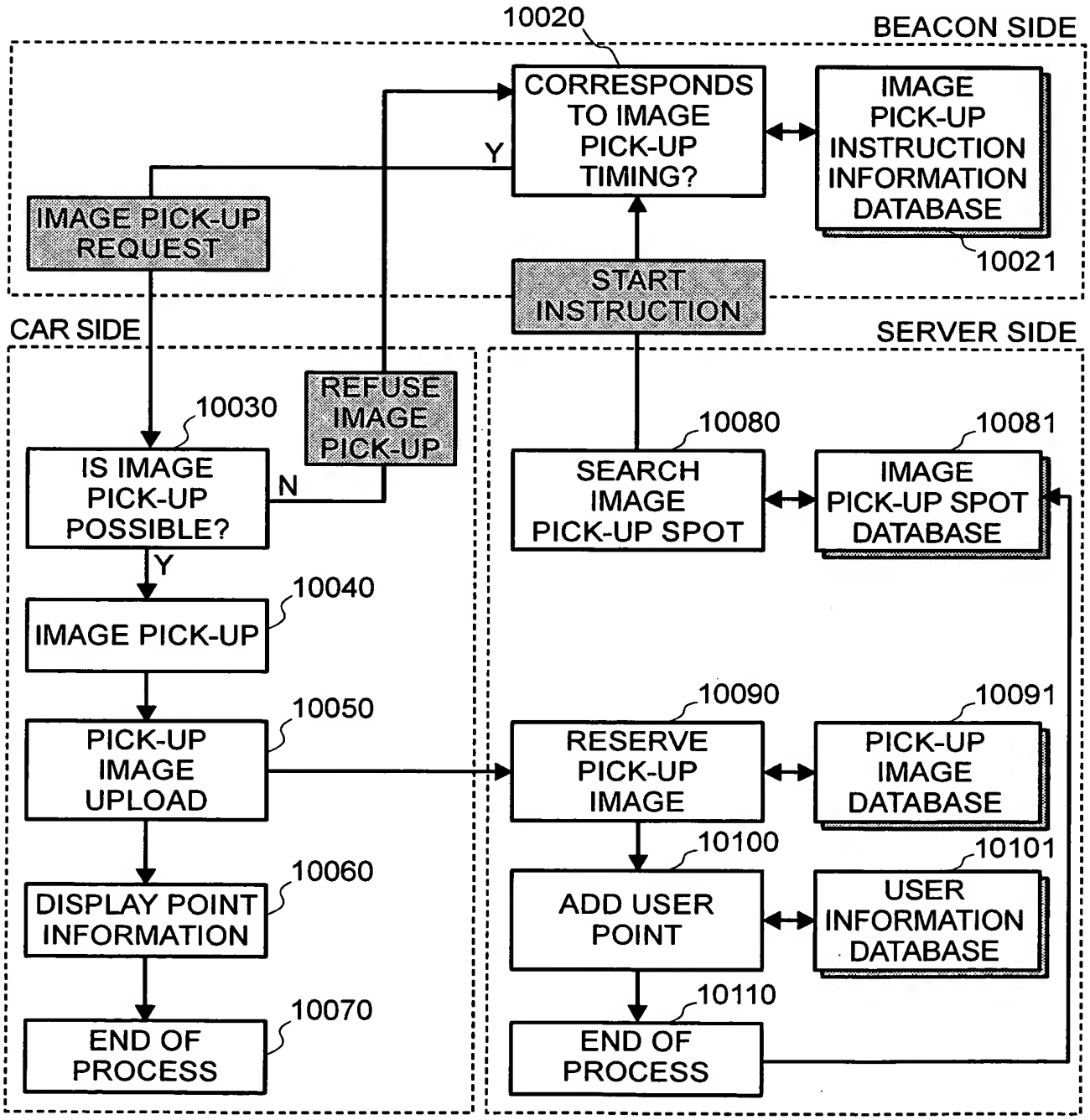

10020
BEACON SIDE
CORRESPONDS TO IMAGE PICK-UP TIMING?
IMAGE PICK-UP INSTRUCTION INFORMATION DATABASE
10021
Y
IMAGE PICK-UP REQUEST
START INSTRUCTION
CAR SIDE
SERVER SIDE
REFUSE IMAGE PICK-UP
10030
IS IMAGE PICK-UP POSSIBLE?
N
Y
10080
SEARCH IMAGE PICK-UP SPOT
10081
IMAGE PICK-UP SPOT DATABASE
10040
IMAGE PICK-UP
10050
PICK-UP IMAGE UPLOAD
10090
RESERVE PICK-UP IMAGE
10091
PICK-UP IMAGE DATABASE
10100
ADD USER POINT
10101
USER INFORMATION DATABASE
10060
DISPLAY POINT INFORMATION
10110
10070
END OF PROCESS
END OF PROCESS

FIG.11

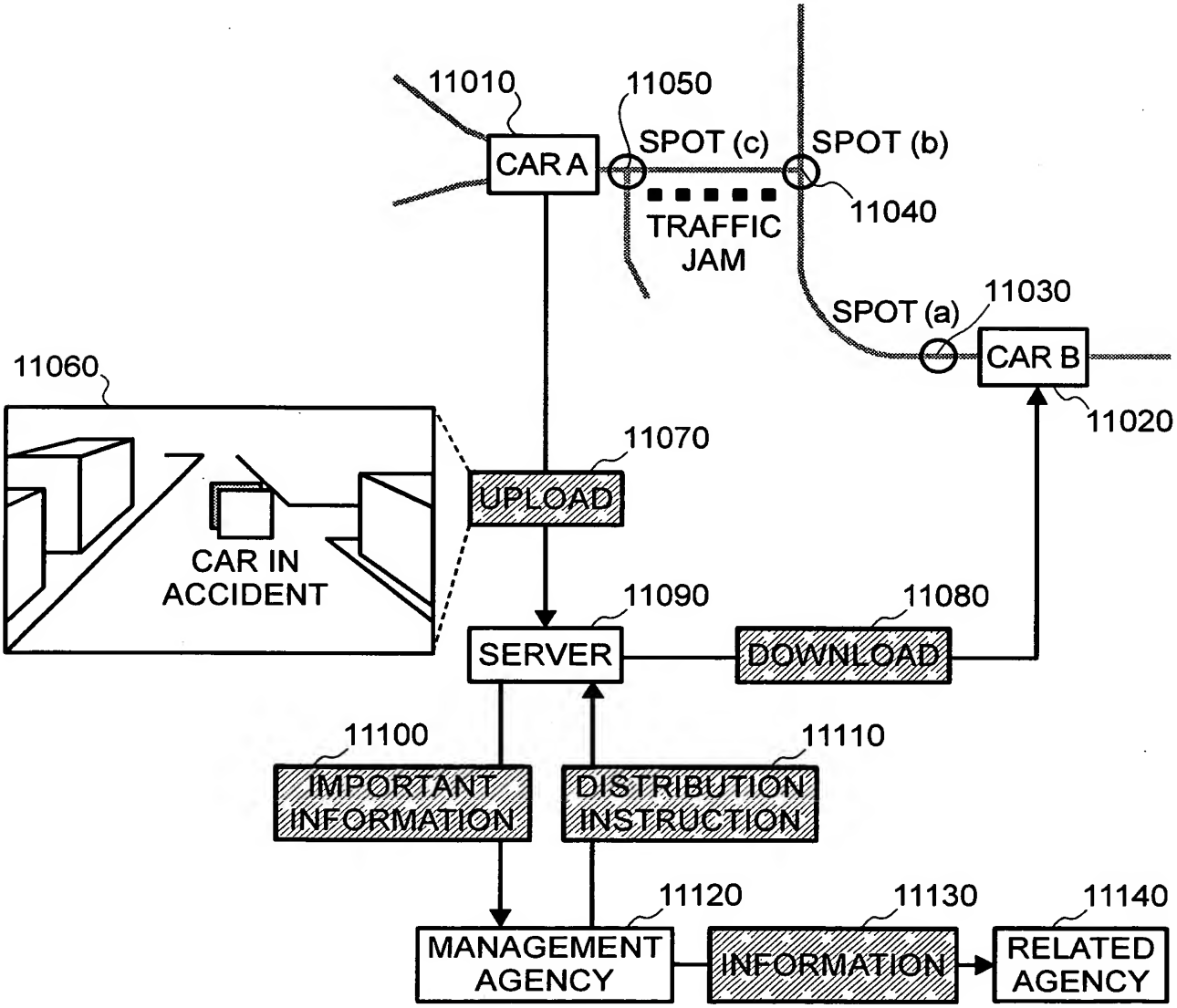

11010
11050
CAR A
SPOT (c)
SPOT (b)
11040
TRAFFIC JAM
11030
SPOT (a)
CAR B
11020
11060
11070
UPLOAD
CAR IN ACCIDENT
11090
11080
SERVER
DOWNLOAD
11100
11110
IMPORTANT INFORMATION
DISTRIBUTION INSTRUCTION
11120
11130
11140
MANAGEMENT AGENCY
INFORMATION
RELATED AGENCY

FIG.12

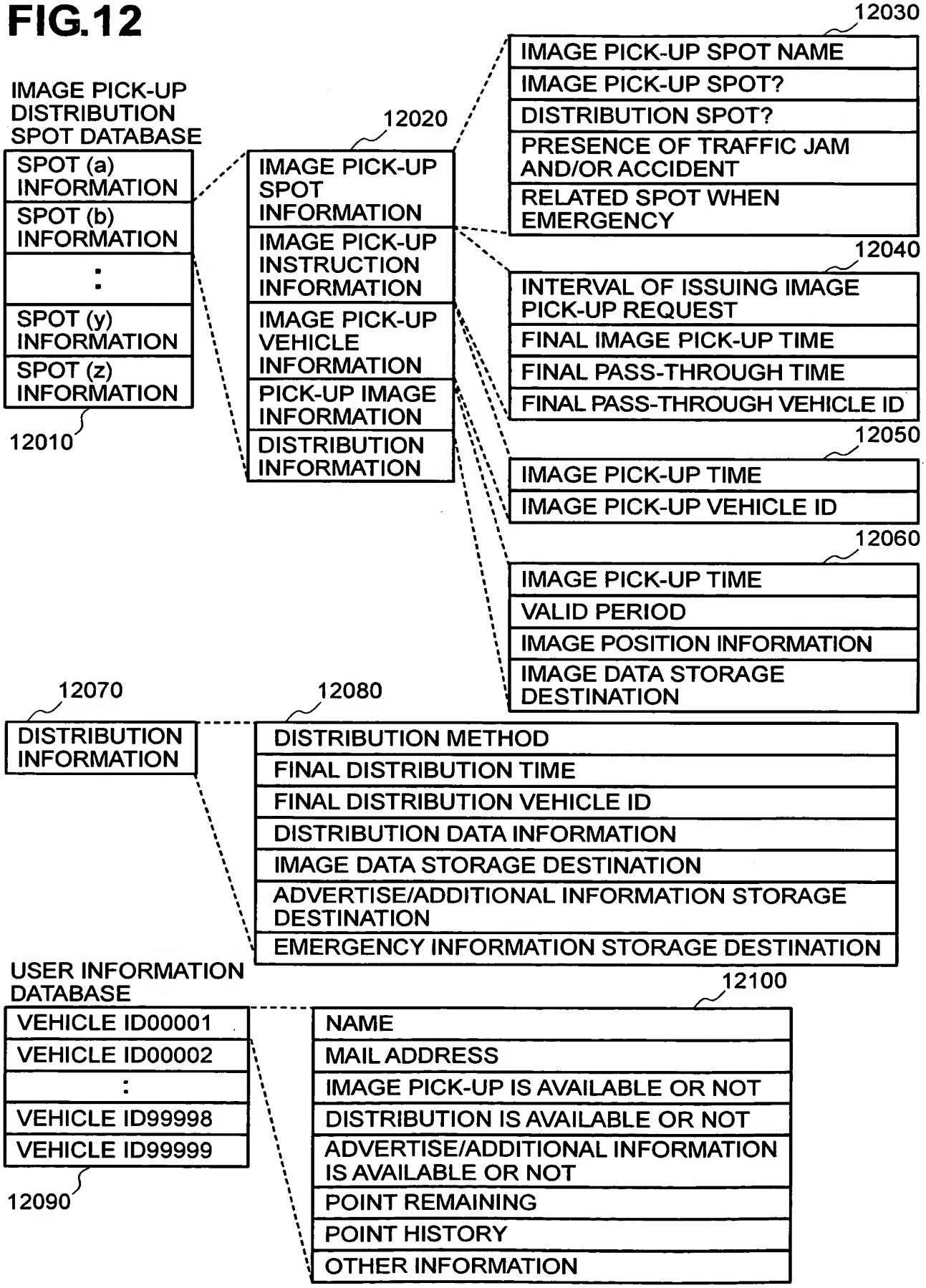


IMAGE PICK-UP DISTRIBUTION SPOT DATABASE
SPOT (a) INFORMATION
SPOT (b) INFORMATION
:
SPOT (y) INFORMATION
SPOT (z) INFORMATION
12010
12020
IMAGE PICK-UP SPOT INFORMATION
IMAGE PICK-UP INSTRUCTION INFORMATION
IMAGE PICK-UP VEHICLE INFORMATION
PICK-UP IMAGE INFORMATION
DISTRIBUTION INFORMATION
12030
IMAGE PICK-UP SPOT NAME
IMAGE PICK-UP SPOT?
DISTRIBUTION SPOT?
PRESENCE OF TRAFFIC JAM AND/OR ACCIDENT
RELATED SPOT WHEN EMERGENCY
12040
INTERVAL OF ISSUING IMAGE PICK-UP REQUEST
FINAL IMAGE PICK-UP TIME
FINAL PASS-THROUGH TIME
FINAL PASS-THROUGH VEHICLE ID
12050
IMAGE PICK-UP TIME
IMAGE PICK-UP VEHICLE ID
12060
IMAGE PICK-UP TIME
VALID PERIOD
IMAGE POSITION INFORMATION
IMAGE DATA STORAGE DESTINATION
12070
DISTRIBUTION INFORMATION
12080
DISTRIBUTION METHOD
FINAL DISTRIBUTION TIME
FINAL DISTRIBUTION VEHICLE ID
DISTRIBUTION DATA INFORMATION
IMAGE DATA STORAGE DESTINATION
ADVERTISE/ADDITIONAL INFORMATION STORAGE DESTINATION
EMERGENCY INFORMATION STORAGE DESTINATION
USER INFORMATION DATABASE
VEHICLE ID00001
VEHICLE ID00002
:
VEHICLE ID99998
VEHICLE ID99999
12090
12100
NAME
MAIL ADDRESS
IMAGE PICK-UP IS AVAILABLE OR NOT
DISTRIBUTION IS AVAILABLE OR NOT
ADVERTISE/ADDITIONAL INFORMATION IS AVAILABLE OR NOT
POINT REMAINING
POINT HISTORY
OTHER INFORMATION

FIG.13

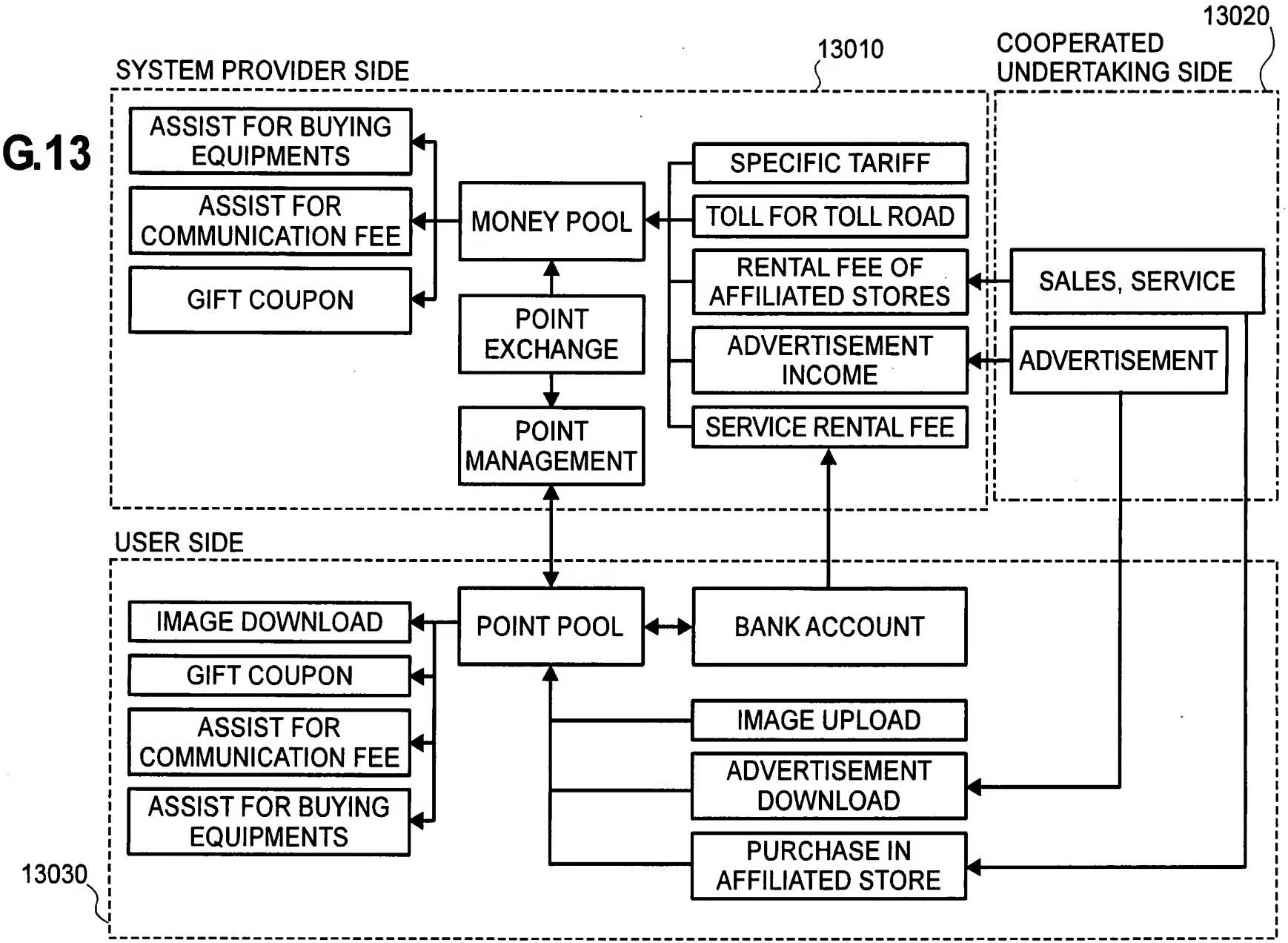
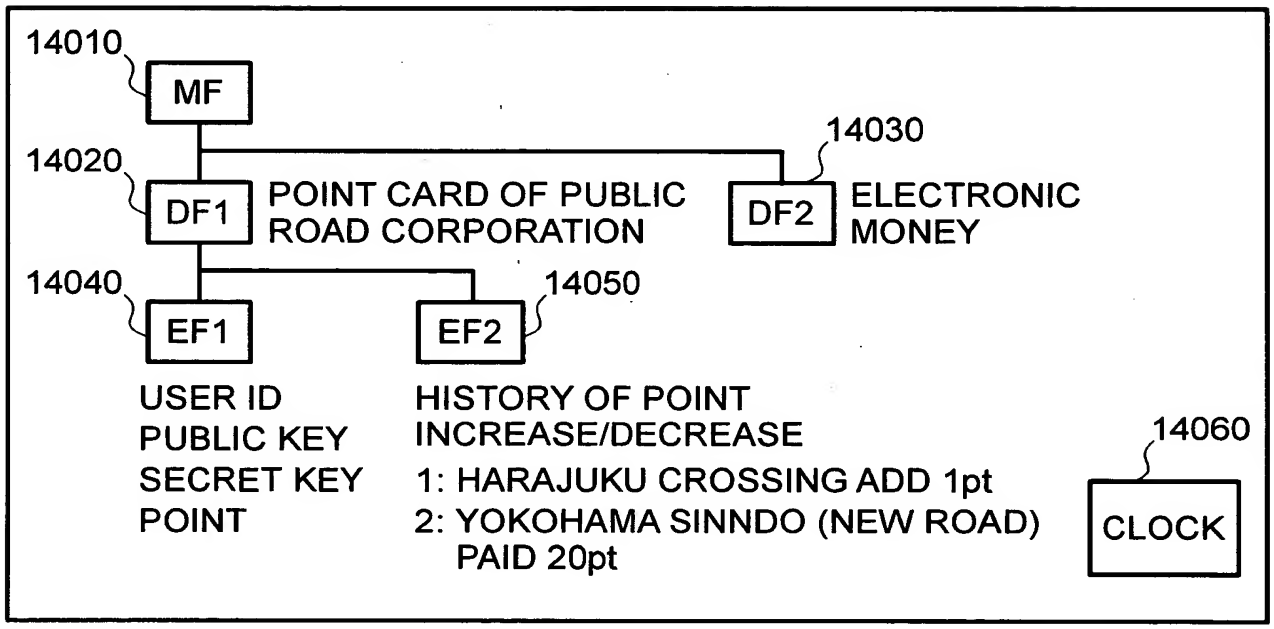

13020
13010
SYSTEM PROVIDER SIDE
COOPERATED UNDERTAKING SIDE
ASSIST FOR BUYING EQUIPMENTS
ASSIST FOR COMMUNICATION FEE
GIFT COUPON
MONEY POOL
POINT EXCHANGE
POINT MANAGEMENT
SPECIFIC TARIFF
TOLL FOR TOLL ROAD
RENTAL FEE OF AFFILIATED STORES
ADVERTISEMENT INCOME
SERVICE RENTAL FEE
SALES, SERVICE
ADVERTISEMENT
USER SIDE
IMAGE DOWNLOAD
GIFT COUPON
ASSIST FOR COMMUNICATION FEE
ASSIST FOR BUYING EQUIPMENTS
POINT POOL
BANK ACCOUNT
IMAGE UPLOAD
ADVERTISEMENT DOWNLOAD
PURCHASE IN AFFILIATED STORE
13030

FIG.14


14010
MF
14020
DF1
POINT CARD OF PUBLIC ROAD CORPORATION
14030
DF2
ELECTRONIC MONEY
14040
EF1
14050
EF2
USER ID
PUBLIC KEY
SECRET KEY
POINT
HISTORY OF POINT INCREASE/DECREASE
1: HARAJUKU CROSSING ADD 1pt
2: YOKOHAMA SINNDO (NEW ROAD) PAID 20pt
14060
CLOCK